

REMARKS

Formal Matters

Claims 1-3, 5-30 and 38-41 are pending.

Claims 1-3, 5-20 and 38-41 were examined and rejected.

Claims 1 and 41 are amended. The amendments were made solely in the interest of expediting prosecution, and is not to be construed as an acquiescence to any objection or rejection. The subject matter of original claim 14 is incorporated into claim 41. Support for other amendments may be found on page 4, line 13-19. Accordingly, no new matter is added.

Applicants respectfully request reconsideration of the application in view of the remarks made herein.

Claim objections

Claim 41 is objected to for containing a typographical error.

The typographical error of claim 41 has been corrected by amendment. Accordingly, this rejection may be withdrawn.

Rejection under U.S.C. § 102(e)/103(a)

Claims 1-3, 5-10, 14, 38 and 41 are rejected under U.S.C. § 102(e) or 103(a) as being unpatentable over Bao (USPN 6,251,601). The Office Asserts that that Bao's array anticipates the claims or, alternatively, renders the rejected claims obvious. The Applicants respectfully traverse this rejection.

Prior to traversing this rejection, the Applicants wish to point out that claim 41 is amended to incorporate the limitations of claim 14. The arrays of claim 14 and 41 contain a first set of features containing cDNA molecules and a second set of features containing synthetic polynucleotides, and sequences of the synthetic polynucleotides are contained within the sequences of the cDNA molecules. Synthetic polynucleotides having sequences that are contained within cDNA molecules are not found anywhere in Bao's disclosure. Accordingly, claims 14 and 41, like the remainder of the pending claims, are believed to be patentable over Bao. Claim 1 is not amended, and is directed to an array containing cDNA molecules and synthetic polynucleotides in separate features, i.e., an array containing both cDNA features and synthetic polynucleotide features. Claims 1-3, 5-10, 14, 38 and 41 are patentable over Bao for the following reasons.

The Office asserts that Bao teaches an array comprising cDNA features *and* oligomer features, and solely points to Col. 6, lines 32-34 of Bao's disclosure in support of this assertion. However, in col. 6, lines 32-34 of Bao's disclosure states, with reference to arrays containing multiple nucleic acid target elements, that "The nucleic acid target elements comprise either genomic DNA, oligomer or cDNA nucleic acids or a mixture of the two." Since target elements (i.e., features) are the subject of this sentence, the sentence can only mean that that each of the elements present on Bao's array may contain genomic DNA, oligomer, cDNA, or some mixture or genomic DNA, oligomer and cDNA. In other words, Bao's sentence refers to the nucleic acids that constitute an individual feature, not the types of feature that can constitute an array. Accordingly, Bao makes no suggestion of an array comprising cDNA features *and* oligomer features, as required by the claims. In other words, the Applicants respectfully submit that Bao teaches, at best, that a feature present on an array suitable for use in Bao's methods contains genomic DNA, oligomer, cDNA, or a mixture thereof. Any other interpretation of Bao's sentence (e.g., that an array can contain oligomer elements and cDNA elements) would not conform to the standard rules of the English language.

Without wishing to trivialize the rejection and solely to provide a straightforward analogy to strengthen the Applicants position, the standard rules of the English language dictate that the phrase "The paint cans contain either red or white paint, or a mixture of the two" means that the paint cans have either red, white or pink (i.e., a mixture of red and white) paint, not that there is a mixture of red and white paint cans.

Accordingly, the Applicants respectfully submit that when read using proper English, there is nothing in the cited sentence that suggests that Bao's array may contain oligomers and cDNA molecules in different features, as required by the instant claims.

This rejection may be withdrawn without any further discussion.

In other words, the claims are directed to an array containing-a) cDNA molecules, and b) synthetic polynucleotides in different features. Bao's cited sentence, at best, suggests that a single feature may contain mixture of cDNA and synthetic polynucleotide. This is not the same as two different features, one containing a cDNA molecule and the other containing a synthetic polynucleotide, that are present on an array. Accordingly, Bao simply does not suggest the claimed array, and this rejection may be withdrawn.

The Office also asserts that the claimed invention is obvious because Bao assertedly

suggests, in col. 8, lines 16-26, that probe length could be modified to provide for optimized hybridization and signal production.

The Applicants respectfully submit that the Office has used an impermissible standard for obviousness because Bao's statement merely represents an invitation to experiment. Beyond this invitation, there is nothing in Bao's statement that suggests the claimed invention.

In other words, the Applicants respectfully submit that Bao's statement represents nothing more than an invitation to "explore a new technology or general approach that seemed to be a promising field of experimentation"¹ to identify optimal probes. Since an invitation to "explore a new technology or general approach that seemed to be a promising field of experimentation" is not the standard that is used for determining obviousness, the Office has used an impermissible standard in making this rejection, and, accordingly, this rejection should be withdrawn.

In other words, based on the foregoing, it is respectfully submitted that the Examiner has attempted to establish obviousness by determining what the prior art would have led a skilled person *to try*, rather than what the prior art would have let a skilled person *to do*. As such, the Office has failed to establish a proper *prima facie* case of obviousness, and this rejection may be withdrawn.

Further, and as previously argued, if Bao's array was modified to be an array meeting the requirement of the rejected claims, e.g., to become an array of cDNAs and oligonucleotides, such an array would be unsatisfactory for Bao's intended use, i.e., unsatisfactory for detecting genomic abnormalities. Accordingly, in view of the guidance set forth in the MPEP (MPEP § 2143.01: "If proposed modification would render the prior art

¹ The Courts (*In re O'Farrell*, 853 F.2d 894, 903 7 USPQ2d 1673 1681 (Fed. Cir. 1988)) and the MPEP (§ 2145X.B) very clearly state that an invitation to "explore a new technology or general approach that seemed to be a promising field of experimentation" is not the standard that is used for obviousness. Such a standard "would not only be contrary to statute but result in a marked deterioration of the entire patent system as an incentive to invest in those efforts and attempts which go by the name of "research"." *In re Tomlinson* 363 F.2d 928, 150 USPQ 623 (CCPA 1966). As such, the test of obviousness is therefore not a determination of what prior art would have led a skilled person *to try*. In other words, any obviousness rejection that is based on an invitation to "explore a new technology...that seemed to be a promising field of experimentation" is based on an impermissible standard for obviousness.

invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modifications.”), Bao’s teachings, alone, cannot render the rejected claims obvious.

Finally, and with particular respect to claim 14 and amended claim 41, the Office asserts that Bao teaches an array in which the sequence of a synthetic oligonucleotide of one element is contained with the sequence of a polynucleotide of another element. The Office cites Bao’s Col. 8, lines 16-26 in support of this assertion. However, this paragraph relates to polynucleotides *within* a single element (see “each target element can comprise a mixture of target nucleic acids of different lengths and sequences....” in Col. 8, lines 16-18), not polynucleotides present in *different* elements, as required by the instant claims. At no point does Bao suggest that elements may contain polynucleotides having a sequence that is contained within polynucleotides of other elements.

The Applicants respectfully submit that Bao fails to teach or suggest all of the elements of claims 14 and 41, and this rejection may be withdrawn.

In view of the foregoing discussion, the Applicants respectfully submit that Bao fails to disclose, teach, or fairly suggest the claimed subject matter. Accordingly, Bao cannot render the claimed invention unpatentable. Withdrawal of the rejection of claims 1-3, 5-10, 14, 38 and 41 under 35 U.S.C. § 102(e) and § 103(a) is respectfully requested.

Rejection under U.S.C. § 103(a) – Bao in view of CLONTECHniques

Claims 11-13, 15-20 and 39-40 are rejected under U.S.C. § 103(a) as being unpatentable over Bao (USPN 6,251,601) in view of CLONTECHniques (July 2000). The Office asserts that Bao’s array, in combination with CLONTECHniques control oligonucleotides, render the claimed invention obvious. The Applicants respectfully traverse this rejection.

Prior to traversing this rejection, the Applicants note that claim 41 has been amended to incorporate the subject matter of claim 14. Claim 14 is not subject to this rejection, and, accordingly, the Applicants submit that claim 41, as amended, is not subject to this rejection.

As discussed above, because Bao is deficient in that it fails to fairly suggest an array containing cDNAs *and* synthetic oligonucleotides.

CLONTECHniques’s control oligonucleotides fails to meet Bao’s deficiency, and, as

such, the cited references, taken separately or together, fail to fairly suggest the claimed subject matter: an array containing cDNAs of at least 400 nucleotides in length *and* synthetic polynucleotide molecules that are no more than 100 nucleotides in length.

Accordingly, the cited references cannot render the claimed subject matter obvious and this rejection may be withdrawn.



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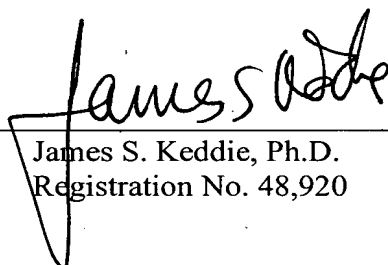
CONCLUSION

The Applicants respectfully submit that all of the claims are in condition for allowance, which action is requested. If the Examiner finds that a telephone conference would expedite the prosecution of this application, please telephone Gordon Stewart at (650) 485 2386.

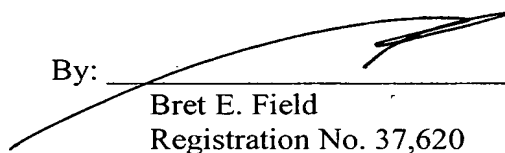
The Commissioner is hereby authorized to charge any fees under 37 C.F.R. §§ 1.16 and 1.17 which may be required by this paper, or to credit any overpayment, to Deposit Account No. 50-1078.

Respectfully submitted,

Date: June 3, 04

By: 
James S. Keddie, Ph.D.
Registration No. 48,920

Date: 6.3.04

By: 
Bret E. Field
Registration No. 37,620